

WE CLAIM:

1. A method comprising:
receiving a first read request, wherein the first read request is received from a
computer system;
reading data from a mirror of a data volume in response to receiving the first read
request;
receiving a second read request, wherein the second read request is received from the
computer system, wherein the second read request is received subsequent to
the first read request, and wherein the first and second read requests are for the
same data;
reading data stored in an alternate mirror of the data volume in response to receiving
the second read request.
2. The method of claim 1 further comprising:
comparing an identification of data sought by the first read request with data
identifications stored in a searchable data structure that stores a history of read
requests in memory;
wherein data is read from the mirror of the data volume in response to determining
that the identification of data sought by the first read request is not stored in
the history of read requests.
3. The method of claim 2 further comprising creating a new entry in the history
of read requests, wherein the entry comprises the identification of data sought by the first
read request, the time of the read request, and a list of mirrors from which the data has been
returned.
4. The method of claim 3 further comprising comparing the identification of data
sought by the second read request with data identifications stored in the history of read
requests.

5 The method of claim 4 further comprising identifying a mirror that has not yet been marked as read in the history of read requests.

6. The method of claim 5 further comprising reading the identified mirror and adding its identity to the list of read mirrors in the history of reads entry corresponding to the identification of data and updating the timestamp on the history entry to the time of the new read.

7. The method of claim 1 further comprising:
the computer system processing the data read from the mirror of the data volume;
the computer system generating the second read request in response to determining that the data read from the mirror of the data volume is corrupted.

8 The method of claim 3 wherein data is read from the alternate mirror only if a current time is within a predetermined amount of time of a time stamp.

9. A method comprising:
receiving a first read request, wherein the first read request is received from a computer system;
reading data from all mirrors of a data volume in response to receiving the first read request;
returning data from a first of the mirrors;
comparing the data read from all the mirrors;
creating a new entry in a history of read requests if the data from at least two of the mirrors do not compare equally, wherein the entry comprises an identification of data sought by the first read request.

10. The method of claim 9 wherein the new entry further comprises an identity of the first mirror and a time stamp identifying a time when the first read request was received.

11. The method of claim 10 further comprising:
receiving a second read request, wherein the second read request is received from the computer system;
comparing an identification of data sought by the second request with identifications of entries in the history of read requests.

12 The method of claim 11 further comprising identifying a mirror that has not yet been marked as read in the corresponding entry in the history of read requests.

13. The method of claim 12 further comprising reading the identified mirror and adding its identity to the list of read mirrors in the entry in the history of read requests corresponding to the identification of data and updating the timestamp on the history entry to the time of the new read.

14. A computer readable medium comprising instructions executable by a first computer system, wherein the first computer system performs a method in response to executing the instructions, the method comprising:

receiving a first read request, wherein the first read request is received from a second computer system;

reading data from a mirror of a data volume in response to receiving the first read request;

receiving a second read request, wherein the second read request is received from the second computer system, wherein the second read request is received subsequent to the first read request, and wherein the first and second read requests are for the same data;

reading data stored in an alternate mirror of the data volume in response to receiving the second read request.

15. The computer readable medium of claim 14 wherein the method further comprises:

comparing an identification of data sought by the first read request with data identifications stored in a searchable data structure that stores a history of read requests in memory;

wherein data is read from the mirror of the data volume in response to determining that the identification of data sought by the first read request is not stored in the history of read requests.

16. The computer readable medium of claim 15 wherein the method further comprises comprising creating a new entry in the history of read requests, wherein the entry comprises the identification of data sought by the first read request, the time of the read request, and a list of mirrors from which the data has been returned..

17. The computer readable medium of claim 14 wherein the method further comprises comparing time T1 with time T2, wherein time T1 is the time when the first request was received, and wherein time T2 is the time when the second request was received.

18. The computer readable medium of claim 17 wherein the method further comprises reading the data stored in the mirrored copy in response to receiving the second request only if time T2 occurs within a predetermined amount of time after T1.

19. The computer readable medium of claim 15 wherein the method further comprises comparing the identification of data sought by the second read request with data identifications stored in the history of read requests.

20. The computer readable medium of claim 19 wherein the method further comprises identifying a mirror that has not yet been marked as read in the corresponding entry in the history of read requests.

21. The computer readable medium of claim 19 wherein the method further comprises reading the identified mirror and adding its identity to the list of read mirrors in the entry in the history of read requests corresponding to the identification of data and updating the timestamp on the history entry to the time of the new read.

22. A computer readable medium comprising instructions executable by a first computer system, wherein the first computer system performs a method in response to executing the instructions, the method comprising:

receiving a first read request, wherein the first read request is received from a computer system;

reading data from first and second mirrors of a data volume in response to receiving the first read request;

comparing the data read from the first and second mirrors;

creating a new entry in the searchable data structure storing the history of read requests if the data in the first and second mirrors do not compare equally, wherein the entry comprises an identification of data sought by the first read request.

23. A data processing system comprising;
a first computer system coupled to a memory system, wherein the memory system stores a mirrored data volume, wherein the first computer system comprises a memory for storing instructions executable by the first computer system, wherein the first computer system implements a method in response to executing the instructions, the method comprising:
receiving a first read request, wherein the first read request is received from a second computer system;
reading data from a first mirror of the mirrored data volume in response to receiving the first read request;
receiving a second read request, wherein the second read request is received from the second computer system, wherein the second read request is received subsequent to the first read request, and wherein the first and second read requests are for the same data;
reading data stored in a second mirror of the mirrored data volume in response to receiving the second read request.